

Is That Hot or Cold?

Observe the demonstration performed by the instructor. In your group discuss your observations and come to consensus. Predict what you think a graph of temperature vs. time would look like for this experiment and sketch it.

Explain in a short statement why your graph looks the way it does.

Set up the system and connect the temperature probe to Channel 1. Configure it to collect data of temperature over time. Think about how long your experiment should last and make the proper settings. Use the software to draw in your prediction.

Perform the experiment by mixing small amounts of baking soda (sodium bicarbonate) and vinegar (acetic acid).

Sketch what your graph actually looks like.

Write a short statement comparing how your actual graph relates to your prediction.

The label of a vinegar bottle states that it is 5% acetic acid. What do you think the other 95% is composed of? Discuss with your group.

How can be sure that the temperature result is caused by the acetic acid in the vinegar and not the other 95% of stuff?

Devise an experiment to test this. Discuss with your group then get approval from the instructor before you begin.

Predict what you think will happen. Draw your prediction in the software and also sketch it.

Conduct your experiment.

Sketch what your graph actually looks like.

Discuss how your results compare to the first experiment.